

RECREATIONAL FISHERIES FOR SNAPPERS AND GROUPERS  
IN THE GULF OF MEXICO<sup>1/</sup>

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ABSTRACT

Recreational fishing for snappers and groupers is conducted mainly from boats. Three general types of boats are used: party boats (also called head boats), charter boats, and private boats. Sizes of these boats range from small (12- to 16-foot) private boats to large (85-foot) party boats. Snappers and groupers are the top choices of species sought by anglers while fishing from party boats and charter boats. These species are also highly desired by private boat anglers.

Available statistics for snappers and groupers caught in the Gulf of Mexico indicate that catches by recreational anglers are substantially higher than those by commercial fishermen. The aggregate catches of snappers and groupers in the Gulf of Mexico by commercial fishermen in 1965 and 1970 were 22.1 and 16.3 million pounds, respectively. Comparable data for recreational anglers were 59.5 and 32.0 million pounds.

In 1970 the number of recreational anglers fishing in the Gulf of Mexico for snappers was estimated at 437,000 and for groupers at 301,000. The average annual expenditure by salt-water anglers in the Gulf of Mexico in 1970 was estimated at \$178. Thus, the 437,000 anglers spent about \$77.8 million and the 301,000 anglers spent about \$53.6 million in pursuit of their avocation. These numbers probably are not additive, since the grouper anglers also may have fished for snappers.

In 1973 the number of private boats fishing in the Gulf of Mexico was estimated at 348,595; the number of party boats and charter boats was estimated at 437. The annual gross revenue for these 437 commercial sport boats was estimated at \$16.9 million. Comparable data for the private boats were not available.

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## INTRODUCTION

Recreational fishing for snappers and groupers in the Gulf of Mexico is conducted mainly from boats in offshore waters. Snappers and groupers are also caught by spear fishermen using SCUBA in offshore waters, by anglers from boats in bays and along the coast, and by anglers on shore; but the catch and effort from these methods are considerably less than from boats in offshore waters.

Boats used in the recreational snapper-grouper fisheries range from small (12- to 16-foot) private boats with outboard motors to large (85-foot) party boats with powerful diesel engines. Anglers fishing from these boats use various types of rods and reels, including electric reels.

Snappers and groupers are demersal, carnivorous fishes, ranging in size from less than a pound to several hundred pounds when fully grown. They occur throughout the Gulf of Mexico and are eagerly sought by both recreational and commercial fishermen.

The principal species of snappers sought by anglers belong to the genera Lutjanus, Ocyurus, and Rhomboplites. The most desired species are the red snapper (L. campechanus), yellowtail snapper (O. chrysurus), gray snapper (L. griseus), and vermilion snapper (R. aurorubens).

The principal species of groupers sought by anglers belong to the genera Epinephelus and Mycteroperca. The most desired species are the red grouper (E. morio), Warsaw grouper (E. nigritus), black grouper (M. bonaci), gag (M. microlepis), and scamp (M. phenax).

## CATCH AND EFFORT STATISTICS

The only statistics on catches by recreational fishermen in the Gulf of Mexico are presented in the Salt-Water Angling Surveys of 1960, 1965, and 1970 (Clark, 1962; Deuel and Clark, 1968; Deuel, 1973), wherein several species are lumped together as snappers and as groupers. The aggregate catches for snappers and groupers for the three years are presented in Table 1. The relative importance of the recreational catches is evident when recreational catches are compared to commercial catches (Riley, 1971). In 1960, for example, recreational catches of snappers amounted to 9.6 million pounds versus 10.9 million pounds for commercial catches; in 1965 the catches were 43.6 million pounds versus 13.0 million pounds, respectively; and in 1970 the catches were 15.1 million pounds versus 9.4 million pounds. For groupers, data for 1960 on commercial catches were unavailable, but for 1965 recreational catches amounted to 15.9 million pounds, while commercial catches amounted to 9.1 million pounds; in 1970 the respective catches were 16.9 million pounds versus 7.1 million pounds.

The importance of snappers and groupers to boat anglers has been indicated in a survey conducted in 1973 for the National Marine Fisheries Service by Information Concepts, Incorporated (Bromberg, 1973). Groupers and red snapper ranked third and fourth, respectively, as the species most sought by anglers

Table 1. Estimated Catch and Effort in the Recreational Fisheries for Snappers and Groupers in the Gulf of Mexico.

	<u>1960</u>	<u>1965</u>	<u>1970</u>
<u>Number caught</u>			
Snappers	3,434,000	10,244,000	5,598,000
Groupers	9,346,000	2,153,000	3,576,000
<u>Weight caught (pounds)</u>			
Snappers	9,590,000	43,589,000	15,096,000
Groupers	74,770,000	15,913,000	16,856,000
<u>Number of anglers</u>			
Snappers	186,000	395,000	437,000
Groupers	238,000	222,000	301,000
<u>Number caught by fishing method</u>			
Snappers by boat fishing	3,152,000	10,070,000	4,748,000
Snappers by shore fishing	282,000	174,000	850,000
Groupers by boat fishing	8,747,000	1,918,000	3,043,000
Groupers by shore fishing	599,000	235,000	533,000
<u>Number caught by fishing area</u>			
Snappers in ocean	---	8,000,000	3,717,000
Snappers in sounds and bays	---	2,244,000	1,881,000
Groupers in ocean	---	1,300,000	2,682,000
Groupers in sounds and bays	---	853,000	894,000

Sources: Clark (1962), Deuel and Clark (1968), and Deuel (1973).

fishing on private boats. On commercial sportfishing boats (charter boats and party boats), anglers ranked red snapper, snappers, and groupers as the first, second, and third most sought species (Table 2).

Most snappers and groupers are caught by boat anglers in offshore waters. As indicated in the Salt-Water Angling Surveys, on the average, about 90% of these fishes (by number) were caught from boats and about 10% from shore (including piers, jettys, and bridges). About 70% of the snappers and groupers were caught in oceanic waters of the Gulf of Mexico, while about 30% were caught in sounds and bays (Table 1).

The number of anglers catching snappers and groupers has also been estimated in the Salt-Water Angling Surveys. From 1960 to 1970 the number of anglers catching snappers increased during each of the 5-year periods, from 186,000 to 395,000 to 437,000 (Table 1). The number of anglers catching groupers was 238,000 in 1960, decreased to 222,000 in 1965, and increased to 301,000 in 1970.

Boat fishing effort during 1973 was estimated by Information Concepts, Incorporated. Using the data on the number of trips made by private boats and commercial sportfishing boats (Table 3) and the percentages of trips during which snappers and groupers were sought (Table 2), the number of trips made for snapper fishing by private boats in the Gulf of Mexico in 1973 was estimated at 363,014; the number for groupers was estimated at 365,607. For the 437 commercial sportfishing boats, the estimated number of trips in 1973 for snappers was 31,778 and for groupers, 21,441. The average duration of trips for both classes of boats was a little over one day. The numbers of trips for snappers and for groupers most likely are not additive, as many anglers who fish for demersal species would not have a preference of one over the other. Therefore, the percentage of ocean trips made for snappers and groupers by commercial sportfishing boats probably lies between 53.8% and 90.1% (53.8% + 36.3%).

#### VALUE OF RECREATIONAL FISHERIES FOR SNAPPERS AND GROUPERS

In 1970 the number of recreational anglers who caught snappers in the Gulf of Mexico was estimated at 437,000, the number who caught groupers was 301,000 (Table 1). In the 1970 National Survey of Fishing and Hunting (U.S. Department of the Interior, 1972), the average annual expenditure of an angler in the Gulf of Mexico was estimated at \$178. Assuming that the percentage of the expenditure specifically for snappers and groupers is half or more of the annual expenditure, the 437,000 anglers spent between \$38.9 million (437,000 x \$89) and \$77.8 million (437,000 x \$178) fishing for snappers, and the 301,000 anglers spent between \$26.8 million (301,000 x \$89) and \$53.6 million (301,000 x \$178) fishing for groupers. These numbers most likely are not additive, since grouper anglers probably fished for snappers also.

The 1973 boat fishing survey conducted by Information Concepts, Incorporated estimated the number of commercial sportfishing boats in the entire United States. These were segregated by boat length, and average annual gross revenues were estimated for boats of each length category. If the same revenue estimates were applied to commercial sportfishing boats in the Gulf of Mexico,

Table 2. The Ten Fishes Most Sought by Boat Anglers as a Percentage of Total Fishing Trips in the Gulf of Mexico.

Private Recreational Boats		Commercial Sportfishing Boats	
Species	%	Species	%
1. Trout (unspecified)	30.7	1. Red Snapper	53.8
2. Snook	14.8	2. Snappers	36.4
3. Groupers	14.1	3. Groupers	36.3
4. Red snapper	14.0	4. King mackerel	33.6
5. Spanish mackerel	13.3	5. Kingfishes	27.6
6. Red drum	11.9	6. Billfishes	20.9
7. Spotted seatrout	11.5	7. Black drum	20.4
8. Anything that would bite	11.1	8. Red drum	20.4
9. King mackerel	8.1	9. Spotted seatrout	20.4
10. Kingfishes	7.7	10. Yellowtail snapper	15.1

Source: Bromberg (1973).

Table 3. Estimated Effort for Recreational Boat Fisheries for Snappers and Groupers in the Gulf of Mexico in 1973.

	Private Recreational Boats	Commercial Sportfishing Boats
Total number of boats fishing in salt water	348,595	437
Number of boats fishing in open ocean	185,327	437
Number of fishing trips in open ocean	2,592,956	59,066
Number of fishing days in open ocean	2,839,222	60,521
Percentage of trips seeking snappers	14.0	53.8
Number of trips seeking snappers	363,014	31,778
Number of days seeking snappers	397,491	32,560
Percentage of trips seeking groupers	14.1	36.3
Number of trips seeking groupers	365,607	21,441
Number of days seeking groupers	400,330	21,969

Source: Bromberg (1973).

the total annual gross revenue by the 437 sportfishing boats in the Gulf would be \$16.9 million (Table 4).

#### RESEARCH NEEDS

The statistics cited in this report have shortcomings, as they are based on small samples (Clark, 1962; Deuel and Clark, 1968; Bromberg, 1973; Deuel, 1973). Enlarging the sample size is difficult due to the high cost of doing so. Nevertheless, the need to refine statistics on our recreational fisheries is evident, as illustrated by the estimated number of commercial sportfishing boats (charter boats and party boats) in the Gulf of Mexico in 1973. This number was 437 (Bromberg, 1973). Researchers at the Panama City Laboratory of the Gulf Coastal Fisheries Center, National Marine Fisheries Service, have estimated that on the Gulf coast of Florida alone, over 900 of these boats exist. Their estimate was obtained in 1975 in consultation with the district offices of the Florida Marine Patrol.

Other refinements needed are: 1) the identification of the various species of snappers and groupers caught by anglers, and 2) knowledge of the distribution and landings of these species with respect to location and season. Obtaining such data is difficult, as the identification of some species of snappers and groupers is difficult even for biologists.

Also, the frequency of obtaining catch and effort statistics needs to be increased. Obtaining such data at 5-year intervals does not permit assessment of fish stocks with reasonable confidence. However, increasing the frequency of gathering data entails additional costs, as does increasing sizes of samples.

In summary, the recreational fisheries for snappers and groupers in the Gulf of Mexico is principally a boat fishery in oceanic waters. Catches by recreational anglers appear to be substantially greater than those by commercial fishermen. Statistics on catch and effort exist, but their use is limited, due to small sample sizes, long intervals between surveys, and lack of specific identification of the species. The need for more refined and intensive surveys of the recreational fisheries for snappers and groupers is evident.

Table 4. Estimated Annual Gross Revenue of Commercial Salt-Water Sportfishing Boats.

Size Class	Number of Commercial Sportfishing Boats	Average Annual Gross Revenue	Total Annual Gross Revenue
<u>Entire United States</u>			
Less than 40 feet	549	\$ 6,610	\$ 3,628,890
40 feet to less than 65 feet	1,747	17,211	30,067,617
65 feet or more	200	260,891	52,178,200
<b>Total</b>	<b>2,496</b>	<b>---</b>	<b>\$85,874,707</b>
<u>Gulf of Mexico</u>			
Less than 40 feet	85	\$ 6,610	\$ 561,850
40 feet to less than 65 feet	310	17,211	5,335,410
65 feet or more	42	260,891	10,957,422
<b>Total</b>	<b>437</b>	<b>---</b>	<b>\$16,854,682</b>

Source: Bromberg (1973).

## LITERATURE CITED

- Bromberg, K. M.  
1973. Determination of the number of commercial and non-commercial recreational boats in the United States, their use, and selected characteristics. Final report, NMFS Contract No. 3-35490 to Information Concepts, Incorporated, 111 p. Distributed by NTIS, U.S. Dep. Commer., Wash., D.C.
- Clark, J. R.  
1962. The 1960 salt-water angling survey. U.S. Dep. Inter., Fish Wildl. Serv., Circ. 153, 36 p.
- Deuel, D. G.  
1973. 1970 salt-water angling survey. U.S. Dep. Commer., NOAA, NMFS, Curr. Fish. Stat., No. 6200, 54 p.
- Deuel, D. G. and J. R. Clark.  
1968. The 1965 salt-water angling survey. U.S. Dep. Inter., Fish Wildl. Serv., Resour. Publ. 67, 51 p.
- Riley, F.  
1971. Fisheries of the United States, 1970. U.S. Dep. Commer., NOAA, NMFS, Curr. Fish. Stat., No. 5600, 79 p.
- U.S. Department of the Interior.  
1972. National survey of fishing and hunting 1970. U.S. Dep. Inter., Fish Wildl. Serv., Resour. Publ. 95, 108 p.

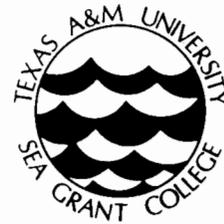
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